



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,082	07/05/2001	Tadatomo Suga	925-203	3209

7590 03/19/2002

NIXON & VANDERHYE P.C.
8th Floor
1100 North Glebe Rd.
Arlington, VA 22201-4714

EXAMINER

NGUYEN, JOSEPH H

ART UNIT	PAPER NUMBER
----------	--------------

2815

DATE MAILED: 03/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,082

Applicant(s)

SUGA, TADATOMO

Examiner

Joseph Nguyen

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I, drawn to claims 1-9 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Therefore, Group I, drawn to claims 1-9 is prosecuted while Group II, drawn to claims 10-19 is withdrawn from consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawai et al.

Regarding claim 1, Kawai et al discloses on figure 12c a semiconductor device comprising a first portion having a first substrate, a conductive layer 4, 2 and an insulating layer 1 laminated on the first substrate and a bonding surface that is chemically mechanically polished and exposes a conductive region and insulating region; a second portion having a second substrate, a conductive layer 4, 2 and an insulating layer laminated on the second substrate and a bonding surface that is chemically mechanically polished and exposes at least a conductive region; and wherein the bonding surface of the first portion and the bonding surface of the second

portion are solid state bonded to each other and at least one of the bonding surface of the first portion and the bonding surface of the second portion has the insulating region 1 lowered with respect to the conductive region 4, 2.

Regarding claim 2, Kawai et al discloses on figure 12c the dishing portion of the conductive regions are bonded to each other.

Regarding claim 3, Kawai et al discloses on figure 12c the conductive region 4, 2 of the first portion and the conductive region 4, 2 of the second portion are solid state bonded to each other, and the insulating region 1 of the first portion and the insulating region 1 of the second portion face each other with interposition of a clearance 8.

Regarding claim 4, Kawai et al discloses on figure 12c the insulating region 1 that surrounds the conductive region 4, 2 of the first portion and the insulating region 1 that surrounds the conductive region 4,2 of the second portion face each other with interposition of a clearance.

Regarding claim 5, Kawai et al discloses on figure 12c the conductive region 4,2 of the first portion and the conductive region 4, 2 of the second portion are solid state bonded to each other, and the insulating region 1 of the first portion and the insulating region 1 of the second portion are put in contact with or solid state bonded to each other.

Regarding claim 6, Kawai et al discloses on figure 12c the insulating region 1 that surrounds the conductive region 4, 2 of the first portion and the insulating region 1 that surrounds the conductive region 4, 2 of the second portion are put in contact with or solid state bonded to each other.

Regarding claim 7, Kawai et al discloses on figure 12c the conductive regions 4, 2 are end surfaces of through hole conductors and the insulating regions 1 are end surfaces of through hole insulators that surround that respective through hole conductors.

Regarding claim 8, Kawai et al discloses on figure 12c the conductive regions 4, 2 are end surfaces of through hole conductors and the insulating regions are end surfaces of through hole insulators that surround the respective through hole conductors.

Regarding claim 9, Kawai et al discloses that the first substrate or the second substrate is any one of a semiconductor substrate, an inorganic substrate and an organic substrate.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6281576 B1 to Hackey et al discloses a structure and process for fabricating semiconductor components.

US Patent 5986339 to Pai et al discloses a multiplayer package.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

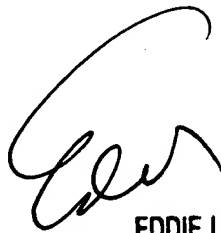
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for

Art Unit: 2815

the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN
March 13, 2002



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800